

HP Docket No. 10002302-1

**AMENDMENTS TO THE SPECIFICATION**

Replacement for paragraph beginning at page 16, line 19:

Considering in further detail, with reference to FIGS. 7 and 8A, the effect on the satellite drop 8 of angling or tilting the typically circular bore of the nozzle 82 with respect to the vertical 89, a print cartridge 21 installed in the printer 10 in an orientation such that the axes 85 of the nozzle bores (referred to herein as bore axes 85 or nozzle axes 85) are substantially vertical tends to have a highly variable directionality error. This effect is at least partially due to the difficulty in ensuring that the bore axes 85 in the nozzles 82 of installed print cartridges 21 are absolutely vertical; in most cases, the axes 85 will have a small amount of tilt, with the tilt occurring in different directions due to minor manufacturing variations in the fabrication of the nozzles and the installation of the cartridge 21 in the printer 10. As illustrated in FIG. 8A, a substantially vertical nozzle 82 typically produces satellite drops 8 having both PAD and SAD error which varies from nozzle firing to nozzle firing. However, by fabricating the nozzles 82 with a bore axis tilt in a given direction in excess of the amount of tilt from manufacturing variations, the direction and magnitude of the drop placement error can be more precisely controlled. In this situation, the effects of the intentional tilt will dominate the effects of the manufacturing and installation variations, allowing improved drop placement performance. The intentional tilt typically has a tilt angle  $\varnothing$  87 in the range of 0.2 to 1.4 degrees, and more preferably in the range of 0.4 to 0.9 degrees. Utilizing such a tilt angle  $\varnothing$  87 for the intentional tilt will make the drop placement performance less sensitive to fabrication and installation variations. Since PAD error is typically more perceptible to the

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human eye than SAD error, the intentional tilt is preferably induced in a direction that will minimize PAD error. PAD error can be minimized according to the present invention by orienting the intentional tilt from vertical 89 in the bore axes 85 to be along the scan axis 2. The same amount and direction of intentional tilt is preferably induced in both the odd nozzles 85a and the even nozzles 85b. The direction of the intentional tilt (e.g. in the forward scanning direction or the reverse scanning direction) along the scan axis 2 does not significantly affect the PAD error reduction.